

REMARKS

The Examiner has rejected claims 1 and 2 under 35 U.S.C. § 102(b) as anticipated by Ambrosch et al. U.S. Patent No. 4,273,510.

Reconsideration is respectfully requested. While it appears that Ambrosch et al. discloses a labyrinth seal, it does not teach an abradable labyrinth seal. The material of the “non-rotating housing wall 2” is not specified but is sectioned as metal. There is no teaching in Ambrosch et al. regarding an abradable labyrinth seal. The rejection based upon § 102(b) should be withdrawn.

The Examiner has rejected claims 1 to 6 under 35 U.S.C. § 103(a) as being unpatentable over Hagi et al. U.S. Patent No. 5,967,746 in view of Ambrosch et al.

The Examiner states:

Hagi teaches the invention substantially as claimed above but fails to teach that swirl-reversing vanes being fastened to the stator seal between the toothed section, the vanes having a v-shape that has a arc or a tapered ends. Ambrosch teaches to have seal sections (5), swirl-reversing vanes fastened to the stator seal, the vanes are in the seal section that lies on the stator (2) and the vanes are taught to be having arc or tapered ends (figure 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the stator of Hagi to have swirl-reversing vanes as taught by Ambrosch, to provide reduction of oscillation of the shaft and to reduce forces that cause oscillation (column 4, lines 54-62 of Ambrosch.)

Reconsideration is respectfully requested.

The Hagi et al. patent fails to disclose an abradable seal in which the diameter of the abradable surface is less than the outer diameter of the teeth and providing a clearance at the tip. With the Hagi et al. patent, the abradable surface has an inner diameter greater than the diameter of the fins. The fins have larger diameter and smaller diameter peripheries. The purpose of this construction is to anticipate damage of larger diameter fins due to vibration. The clearances along the labyrinth increase overall, which causes performance deterioration.


Thus, even if there were a suggestion or reason to combine the teachings of the Hagi et al. and Ambrosch et al. patents, the combination would not meet the Applicants' claims.

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In view of the foregoing amendments and remarks, it is urged this case is now
in condition for allowance.

Respectfully submitted,

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